

Artists Using Science and Technology

Ylem (Eye-lum): The exploding mass out of which the universe emerged in the Big Bang

Ylem Newsletter

Vol. 15, No. 4 July/August 1995



Fractal laser hologram by Light Impressions, Inc.
Background fractal by Bob Brill

From the editor:

Creative expression is an ancient endeavor, and is by no means the sole purview of new media artists. Furthermore, it is not clear, at least in my current opinion, that new technological resources provide an expressive medium that brings us any closer to our selves and to each other than another medium used in a different era. It may be an illusion, and possibly hubris, to advance a teleological position in assuming closer communication as a result of human and technological evolution. Pointing to promise or potential does not guarantee its use or evolution into its ideal form, and we don't need to travel very far to find examples of how humanity has transformed very little in some of the most important ways. Fundamental to art is an exchange of human experience and sensibility so personal that it requires stepping outside of the boundaries of the language of conversation, and into the realm of illusion, allusion, and gesture. What the application of new technological resources to art and communication does provide is a means of addressing existence in our own era, something that has become increasingly difficult using traditional art forms and media.

Contributors to this issue of the Ylem Newsletter explore aspects of communication and aesthetics in relation to their work in new media arts. They direct their inquiry to the source of their creative drive, probing why we create art, and exploring expressive goals. The artists and perspectives presented demonstrate per-

sonal interpretations of these issues, with a focus of attention on how to transform and direct new media creative resources towards addressing them. Eduardo Kac presents an inter-species, multi-site installation work as a metaphor for human communication in *Essay Concerning Human Understanding*. In *Subverting Interactivity* Joan Truckenbrod probes the nature of interactivity from the cybernetic perspective, comparing it with the goals of interactivity and communication from the human vantage point. Stephen Pope, Editor of the Computer Music Journal, offers his CMJ Editor's Note *Why is Good Electroacoustic music So Good? Why is Bad Electroacoustic music So Bad?*, along with a group of responses from people around the world. This piece and the viewpoints represented in the responses provide valuable insights on a variety of aesthetic issues in creating and evaluating new media art.

It is my hope that these perspectives focus attention on the core reasons for creating art, directing the development and use of new technological resources in service of those aims.

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News of Members

Ylem's *Art on the Edge* will be shown at SIGGRAPH '95 in Los Angeles as part of the Interactive Communities Show. All of the artist's in the gallery at that time will be on view to the over 40,000 attendees! **Lucia Grossberger Morales, Beverly Reiser and Annette Loudon** will travel to LA to be the "on site" crew. A "micro" version of Ylem's *Art on the Edge* designed by Beverly Reiser and Annette Loudon will be included in the SIGGRAPH '95 catalogue. Artists included are:

Life on a Slice (**Beverly Reiser, Bill Fleming, Hans Reiser, Kimberley Edwards**), interactive multimedia

Craig Harris, music

Ken Rinaldo, robotic sculpture

Anita Margrill, large scale site specific sculpture

Annette Loudon, digital photography

Diane Fenster, digital photography

Lucia Grossberger Morales, interactive multimedia

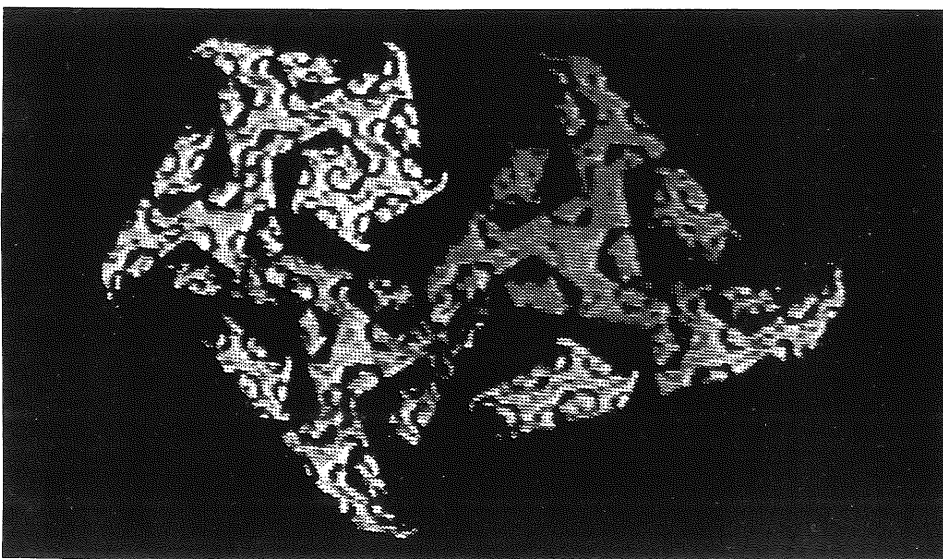
Steve Wilson, interactive multimedia

Paul Brown, 2D graphics

Jim Pallas, robotic sculpture

Barbara Lee, multi-sensory installations.

Carol Brown, here in San Francisco from the Barbican Art Gallery in London, viewed videos of Interactive art by Ylem members while visiting **Beverly Reiser**. **Alex Nicoloff** is now on the Advisory Council of the University Art Museum at UC Berkeley. *Goddess Continuum*, by **Edith Smith**, a visual multimedia installation with computer music by her husband, Leland Smith, was exhibited in the Stanford Arts and Technology Initiative Exhibit in May. In June, **Gene Edwards** received honorable mention in the Wide, Wide Open juried exhibition in Long Beach, **Mason Lyte** had a solo show in Santa Barbara, and **Ken Rinaldo** and **Jody Gillerman** showed interactive art at the new Blast House Gallery in San Francisco.



Reclining Fractal Frog Video/analog generated fractal by Peter H. King

About the Cover

Fractal Holograms—Dancing in the Afterglow

by Louis M. Brill

Fractals are the mathematics of wiggles
—Benoit Mandelbrot

Fractal fascinations seem to have no boundaries either in inspiring its creations or how it emerges as finished art. Our current Ylem cover exemplifies this as two artists, Mike Long and Bob Brill (no relation to the author, folks), have each explored a road of creative expression that merged, bringing our cover to its finished state. Long, who is a chief holographer and lab manager (formerly with Light Impressions) created the illuminating hologram cover design of the animated, self-replicating forms that blink through their color sequences as you move the page back and forth.

Mike Long noted that he has been interested in fractals since a friend introduced them to him through a shareware program called *Fractint*. In creating various fractal images, one of its features that caught Long's eye was its ability to animate the image's color palette into levels of flashing colors. Fascinated by the computer version, Long decided to create a translation of his digital fractals into their optical counterparts via the popular holographic embossed-foil process.

The creation of the fractal hologram evolved from two production situations. First, on the computer side, the *Fractint* program was used to design and color-separate the image into component color "masks." On the holography side, the computer masks were transformed into diffraction gratings that are composited together into a master hologram that is reproduced as an embossed foil. "There are

always things you can do to improve an image," says Long, "but I was happy with the final results of this image." Long sees this exploration of fractal holograms as just a beginning, as he expects to continue developing his artistic efforts over time into other fractal images. And of course, from a client perspective his company is always interested in developing other fractal images on a custom basis.

As for the black and white fractal frame, it was developed by Bob Brill, who evoked a similar design to the holographic image in the course of his own explorations with fractal art. A retired programmer, Brill has been involved with fractals and computer art for at least five years. He has always been fascinated with algorithmic art that incorporates his interest in patterns and rhythm. "I wrote little programs that instructed my computer to make pictures for me," Brill says, "It's a radical way of making art, because the hand is entirely removed from the rendering of the art; however, it does lead to exquisite imagery that makes the beauty of mathematics visible."

For custom fractal holograms:
Pacific Holographics, Inc., Randy James,
408-425-4739 (phone and fax).

Project coordination: Louis M. Brill

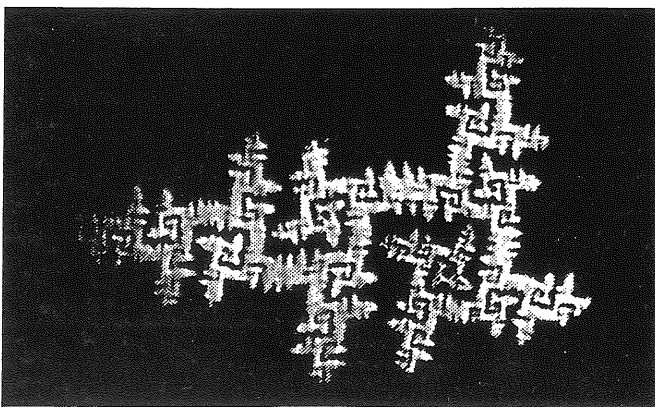
Image donated by *Light Impressions*

Fractal frame border: Bob Brill

Cover art direction: Trudy Myrrh Reagan

Special thanks to:

Pam Jamison for providing hologram



Fractal Quilting
Video/analog generated fractal by
Peter H. King

Ylem Forum:

Deep There and Then

Wednesday, July 5, 7:30 pm

**McBean Theater, The Exploratorium,
3601 Lyon St., San Francisco**

**Contact: Trudy Myrrh Reagan,
415-856-9593**

George Smoot, an astrophysicist at the Lawrence Berkeley Laboratory and a professor of Physics at UC Berkeley, will talk about the creation and development of the universe. He will show slides of the large scale structure in the sky, the universe in various stages of development, and the instrumentation used to learn about the early universe. Smoot was the leader of the COBE satellite team that discovered the ripples in spacetime. He is co-author of the book, *Wrinkles in Time*, a review of modern cosmology.

Marshall Smith, manager of the San Francisco Orion Telescope Center, is an avid sidewalk astronomer. He will brief us in telescope optics with his equipment and let us do telescope viewing (at stars, weather permitting!) during intermission.

Robert Hone will discuss his interactive museum exhibit, *Seeing Time*, which explores the unseen world of natural change—events that occur too quickly or too slowly to be seen. This \$500,000 project, supported by the National Science Foundation, is being distributed to science museums around the country and is now at the Exploratorium. Hone produced, directed and wrote two hour-long programs in the five-part series *The Machine That Changed the World* (WGBH & BBC, 1992). Winner of a Peabody Award and an Emmy, Hone recently formed Red Hill Studios, a multimedia production company, to design and produce interactive media. Hone teaches in San Francisco State University's Multimedia Studies Program.

Plus! Recent images from the Hubble Space Telescope and cosmic art.

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Upcoming Forums:

**September 6:
The SolArt Festival Results**

**November 1:
The Brain and Artificial Life**

Essay Concerning Human Understanding

by Eduardo Kac

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The title of this article refers not to Locke's philosophical work, but to the live, bi-directional, interactive, telematic, inter-species sonic installation I created with Ikuo Nakamura between Lexington (KY), and New York. This piece was presented publicly from October 21 to November 11, 1994, simultaneously at the Center for Contemporary Art, University of Kentucky, and the Science Hall, in New York. The installation is scheduled to be presented publicly again at the Susquehanna Art Museum in Harrisburg, Pennsylvania, in September of 1995.

Ikuo, a New York-based Japanese artist and holographer, and I met very briefly in 1990, during the opening of my solo exhibition at the Museum of Holography, in New York. A common friend re-introduced us again online via e-mail in 1993, and since then we started to develop a very stimulating dialogue, primarily over e-mail.



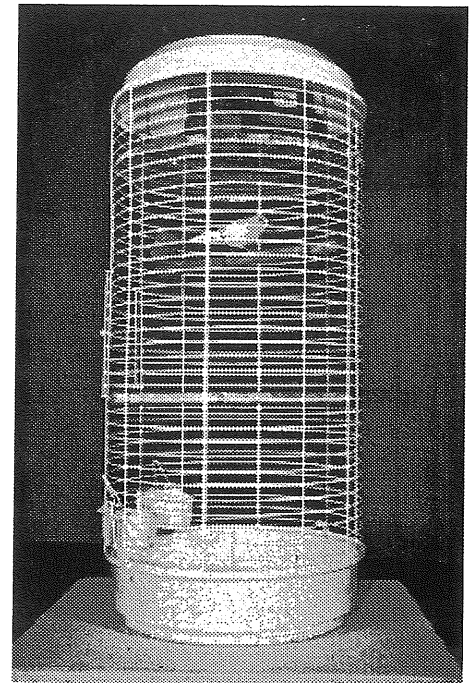
Essay Concerning Human Understanding
by Eduardo Kac & Ikuo Nakamura
This image is the plant side of the installation.

Ikuo and I discovered many interesting points in common. The most striking coincidence was that we were working independently on similar concepts for an interactive installation. He once described a piece in which two cacti would exchange signals live over a modem connection. I told him about a piece I was working on in which two caged birds would have a live telephonic conversation. After we met again personally in 1994, during the Fifth International Symposium on Display Holography at Lake Forest College, Illinois, we decided to merge the two concepts and create a piece in which my canary dialogues over a regular phone line with his plant 2,000 miles away. Instead of the cactus, the plant of choice was the Philodendron. The piece was exhibited in the context of my show *Dialogues*, realized partially on the Internet, in connections with other museums and galleries, and in the Center for Contemporary Art at the University of Kentucky.

Placed in the middle of the Center for Contemporary Art, the yellow canary was given a very large and comfortable cylindrical white cage, on top of which circuit-boards, a speaker, and a microphone were located. A clear Plexiglas disc separated the canary from this equipment, which was wired to the phone system. In New York, an electrode was placed on the plant's leaf to sense its response to the singing of the bird. The fluctuation in the electric field of the plant was monitored through a Macintosh running a brain wave analysis program (IBVA). This information was fed into another Macintosh running Max, which controlled a MIDI sequencer. The electronic sounds themselves were pre-recorded, but the order and the duration were determined in real time by the plant's response to the singing of the bird.

When this work was shown publicly, the bird and the plant interacted for several hours daily. Humans interacted with the bird and the plant as well. Just by standing next to the plant and the bird, humans immediately altered their behavior. When in close proximity, the interaction was further enhanced by the constantly changing behavior of the bird and the plant, which responded by singing more (bird), activating more sounds (plant), or by remaining quiet.

Curiously, both Ikuo and I had similar experiences with some scientists who saw the installation in Lexington and New York. Scientists



Essay Concerning Human Understanding
by Eduardo Kac & Ikuo Nakamura
This image is the bird side of the installation.

at both places were quick to ask if and how we were measuring the bird's and the plant's responses and to point out that research in this field has been going on since the '60s. These kinds of questions and observations make us wonder about the possibility of a true dialogue between science and art, since they reveal a basic misunderstanding of our work on their part. Scientists were sighted with a mixture of curiosity and appreciation once we explained that we were not concerned with any kind of measurement, and that the work should in fact be regarded as a human metaphor.

By enabling an isolated and caged animal to have a telematic conversation with a member of another species, this installation dramatized the role of telecommunications in our own lives. The inter-species communicative experience observed in the gallery reflects our own longing for interaction - our desire to reach out and stay in touch. This interactive installation is ultimately about human isolation and loneliness, and about the very possibility of communication.

As this piece projects the complexities of electronically-mediated human communication over nature, it surprisingly reveals aspects of our own communicative experience. This interaction is as dynamic and unpredictable as a human dialogue.

YLEM

Subverting Interactivity

by Joan Truckenbrod

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Artists considering strategies for interactive artworks frequently adopt behaviors of the computer rather than considering experiential artforms in relation to issues of self-perception and self-making. I am interested in the construction of artworks that tap into the histories, experiences and belief systems of the viewer turned participant, and have the potential for performative self-making. The self is a vessel embodying histories, experiences, memories and images. The self becomes costumed by the social forces in the environment.

Artists create a grammar of sociality between an artwork and the viewer by subverting the rhetoric of the computer into forms of the artist. Artists are making a rhetoric of form, of behavior, of personality that supersedes the indigenous functioning of the machine. Whereas audiences usually indulge in other's self images, in interactive artforms the viewer begins to negotiate notions of the self through self-production or self-making. The viewer/participant makes a space where the poetics and politics of selfhood converge.

The indigenous rhetoric of the computer culture is seductive. Computer games elucidate the artifacts of the technology. An authority has been instilled into this cybernetic functioning. The word feedback, as the central construct in interactivity, means gaining information about the outcome of any process or activity. It implies that interaction is everywhere, and takes the individual experience out of interaction. The word interaction has cybernetic origins and ignores the nature of personal relations between people. The rhetorics of the machine inform the character and functioning of many interactive applications including games, educational projects, and artworks. These projects are based on the functioning of the machine rather than the functioning of people. Intelligent machines are not models for human interaction. In fact using this mechanistic metaphor for human behavior belittles subjective experiences and historical references. These metaphors introduce a bias into the way that we understand ourselves and society.

Art in this behavioral context is a conduit, an elastic matrix. The interaction is an exchange, an interplay, an intercourse in which experiences dovetail, and are reciprocal and complementary. These artforms open discursive spaces and precipitate social entanglements. In 1970 Jack Burnham published an article titled "The Aesthetics of Intelligent Systems" in the book *On The Future of Art*. From his perspective, the aesthetics of intelligent systems should be considered to be a dialogue in which two systems gather and exchange information so as to change constantly the

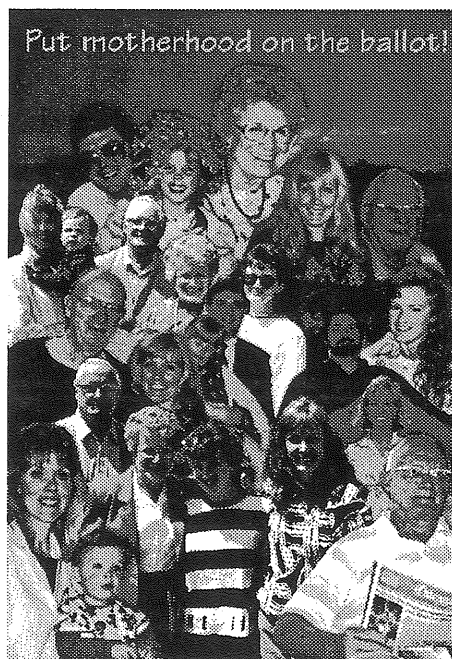


Image from *everyday family* project for the Digital Village Exhibit at the University of Maryland, Nov. 1995, by Joan Truckenbrod

states of each other. A basic premise of communication is that one organism affects the behavior of another through communication processes. The rhetoric of the machine culture is subverted into new grammars by artists. This precipitates a radical shift in the paradigm of artist, artwork and viewer made participant.

My own artwork has now wandered into the territory of involvement, exploring electronic forms of communication. In 1988, I was invited to create a piece for the *Images du Futur* exhibition in Montréal at the Cité de la Nouvelle Technologies. It was titled

Expressive Reflections: Reflective Expressions. The objective of this artwork was to prick the viewers' perception of themselves. An immersive experience was created as the whole body was involved. This artwork simultaneously digitized the viewer's voice and the viewer's image. An audio digitizer captured a sequence of sound - voice, singing, or noise, while a scanning video digitizer captured their portrait. The use of a scanning digitizer encouraged a performative approach as the participant's movement affected the distortion of their picture. The sound sequence captured was transformed by the program and played back for the participant at the same time that their transformed portrait was displayed on the computer screen. Each participant experienced a totally new perspective of themselves. Participants clearly invented a meaningfulness in this process as they repeated it more than once.

I am currently working on a project titled *everyday family*, selected for the Digital Village Exhibition opening at the University of Maryland Art Gallery in November. This artwork builds a sociotecture, an architecture of social systems and identities. The viewer is entangled in the sticky matrix of families, alternative family structures and the lack of social, economic, and political support for raising children in either context. Each person is costumed by their social environment. This artwork is obsessed with the inadequacies, inequities and cultural dysfunction of these social costumes.

In this piece, I am excavating the site of memories. The setting is nostalgic and the way into the work is through photos in an old photo album. These photos of families and family activities will awaken the memories of each participant. Simultaneously, a video portrait of the participant is captured through a two way mirror, and injected into the images on the computer monitor which is disguised as a TV. The images on the screen will confront the inadequacies and inequities in constructing families and raising children through images, text, magazine and newspaper stories, and drawings. The participants become part of the story. The paradox of the symphony of the past, with the dissonance of polymorphous family forms of the present, remaps the complacency of today.

YLEM CALLBOARD

EVENTS

Through July 4

Where No Fair Has Gone Before

The 1995 Marin County Fair and Exposition will salute Marin County's software and multimedia industry. The Fair will feature a new Multimedia Funhouse showcasing Marin County software and multimedia companies through exciting and innovative exhibits.

Marin County Fair & Exposition, Avenue of the Flags, San Rafael, CA 94903; 415-499-6400; fax 415-499-3700

July 5, 7:30 pm

Ylem Forum: Deep There and Then

Details on page 3

August 4-6

The Digital Dialectic (Pasadena)

A Conference on the Convergence of Technology, Media & Theory, held at the Art Center College of Design, Pasadena on the weekend just preceding SIGGRAPH '95. It is an interdisciplinary jam session about what is happening to our visual and intellectual cultures as the computer recodes technologies, media, and art forms. Scholars and artists will discuss the possibilities (and limitations) of the technologies involved in digital art and media, building an aesthetic theory for the 1990s. Registration info:

Peter Lunenfeld, Graduate Faculty Art Center College of Design, 1700 Lida Street, Pasadena, CA 91103; 818.568.4710; fax: 818.795.0819; peterl@artcenter.edu

August 5-6, August 15-16

Out There

An interactive art environment evoking the Burning Man at Black Rock Desert experience. During the first two weekends of August the gallery, hall and theater will be filled with fire, dance, music, computer art, monumental sculpture, interactive performances, and of course, Burning Man (unburnt). Come dressed for this! (Dressed as anything!) Note: This is but a prelude to the actual Labor Day arts and ritual event in Nevada, where the effigy will be set ablaze. It's an enthralling experience that costs very little, so here's the contact number for this also.

SOMAR Gallery, 934 Brannan St., San Francisco, CA; Burning Man info: 415-985-7471

August 6-11

SIGGRAPH 95 (Los Angeles)

Held at Los Angeles Convention Center.

Filmmakers, educators, artists, software developers, hardware designers, animators, scientists and senior executives will all be at this high-profile computer graphics conference. Look for these Ylem members: Roman Verostko on the "Algorithms and the Artist" panel; Carl Machover moderator of the "3D Graphics Through the Internet" panel; and in the art show, Barbara Nessim, Roman Verostko, Diane Fenster and possibly others.

Conference Management, Smith, Bucklin & Associates, Inc., 401 North Michigan Ave., Chicago, IL 60611; 312.321.6830; fax: 312.321.6876; siggraph95@siggraph.org; Website <http://www.siggraph.org/>

August 16-19

6th Annual Macintosh Summit Conference (Santa Barbara, CA)

Held at UC Santa Barbara. Host: Guy Kawasaki; selected faculty: Russell Brown, Kai Krause, Deke McClelland, Bert Monroy. Price: \$180-\$1040; Educational price: \$445 (2-day summit). Register: by mail—UCSB Extension, Dept. M, 6550 Hollister Ave., Goleta, CA 93117; by phone—805-893-2811, Visa or MC; by fax—805-893-4943, Visa or MC. Info: hotline 805-893-2811; <http://www.mcl.usb.edu/summit>

August 19, 9 pm SHARP

Cacophony Drive-In Movie Short Film Video Festival

Volunteer and receive free admission and a free film entry. Art cars get free admission too.

Entrance at corner of Marin and Illinois (near 3rd and Army) in San Francisco

EXHIBITS

Virtual World:

Multimedia and the Internet

New museum exhibit allows visitors to explore the Internet and experience the latest multimedia software, navigate various destinations on the World Wide Web, and don 3D goggles to experience virtual reality.

The Tech Museum of Innovation, 145 W. San Carlos, San Jose, CA 95113; 408-279-7150; fax 410-279-7167

Through July 21

Calypso Imaging

Online Design Digital Art Show. Juried show includes Ylem members Margaret Phanes and Jeremy Sutton.

Calypso Imaging, 2000 Martin Ave., Santa Clara, CA; 408-727-2318

Through July 29

Surfing the International Print World (Plainsboro, NJ)

An exhibit of internationally-known artists using traditional and new-media techniques. Seven artists, including Ylem member Roman Verostko. Held in conjunction with The Williams Gallery of Princeton.

The Merrill Lynch Art Gallery at Merrill Lynch Main Entrance, 800 Scudders Mill Rd., Plainsboro, NJ 08536; Info, Williams Gallery, 609-921-1142; wmgallery@aol.com

Through September 3

Interventions (Oak Park, MI)

Forty-five Michigan artists, working in a vast array of different mediums, will meaningfully incorporate their own works into the museum's permanent collection galleries. The art works will draw attention to resemblances and parallels of an iconographic, stylistic, or material nature. These "interventions" will be museum-wide and a "road map" will locate each "intervention" for visitors who will see how Michigan artists perceive world art and how they cast their own work within that context. Includes: My Nature Is to the Ground, an installation/performance by Ylem member Dennis Summers, 1-4 pm Sundays. There will be no performance on July 2 or July 9.

Quantum Dance Works, 15100 Sutherland, Oak Park MI 48237

Through September 23

Meaning in the Workplace

A digital art exhibit. Ylem member Margaret Phanes will offer her vision of meaning in the workplace through a digital art exhibition at VERITAS Software. What place do symbol, meaning, soul or spirit have in the workplace? In an era when computers are blamed for depersonalizing communication, displacing workers and predominating in the workspace, could they also be used to incorporate meaning?

VERITAS Software, 1600 Plymouth St., Mountain View, CA 94043; Margaret Phanes, 408-457-1703

OPPORTUNITIES

Deadline July 15

New Voices, New Visions (NVNV)

Co-sponsored by Interval Research and Voyager Corp. Eligible: Digital art works that can be sent by mail or downloaded electronically in their entirety, any subject. No installations. Three Awards of Merit \$5,000 Each. Submit by post or online: 1. Entry form; 2. a representative still image in TIFF, PICT, GIF, or Photoshop; 3. your piece sent through the postal service on a digital storage medium (or we will attempt to

All events and exhibits are in the San Francisco Bay Area except where noted. Is your event or exhibit listed here? Send to Ylem Editor, 967 Moreno, Palo Alto, CA 94303.

retrieve it from the FTP location you provide on your entry form, or Web-based entries, an externally accessible URL accessible July 15–Sept. 30).

New Voices, New Visions; c/o Interval Research Corporation; 1801 Page Mill Road, Building C; Palo Alto, California 94304; 415-855-0780; fax: 415-855-0788; email entry form: info@nvnv.org; email inquiries: staff@nvnv.org

Deadline July 15 – September 15

Presence

Journal of teleoperation and virtual environments wants cover photos. Send color 35mm slides depicting virtual environments and teleoperation. Include with images 7-8 sentences describing the image plus any required picture credits.

Deadlines for upcoming issues: The Application of Virtual Environments to Architecture, Building and Large Structure Design/July 15; VE and Teleoperation for Disability/July 15; Networked Virtual Environments and Teleoperation/August 15; Networked Virtual Environments and Teleoperation/Sept. 15. Details: available on Arts Wire (INTERACTIVE Item 6:14)

Send 35mm slides to: Doug Allen, Assistant Managing Editor, Presence, MIT, 50 Vassar Avenue, Room 36-709 Cambridge, MA 02139-4307, 617-253-8500; presence@cbgrle.mit.edu

Deadline July 26, 5 pm

Santa Clara County Artist Fellowships

Three fellowships, \$2,000, to independent film and video artists, and composers. Eligible: Santa Clara County, CA residents not enrolled as students, active in their field for at least three years. For Prospectus:

Artist Fellowships, Arts Council of Santa Clara Co., 4 N. Second St. #210, San Jose, CA 95113-1305

Deadline July 30

One Minute World Festival

Part of the preparatory activities of the world conference on the future of the cities, Habitat II, by an agency of the UN. A worldwide network of 100 cities will exhibit the One Minute Festival '95. Theme: "Eyes on the City." More than one work can be entered. If selected, submit Betacam version with Spanish subtitles. Fee: \$10 per work entered. For details, contact:

Agência Observatório, Rua Professor Rubião Meira, 50, CEP 05409-020, São Paulo—SP Brasil; tel-fax 55 11 8512846

Deadline August 1

Invention

The Da Vinci Days Festival 1996 "celebrates both science and art, and the connection between these two. About 10,000 people" attend. Artwork and/or installations that portray the process of invention sought. Kinetic sculpture encouraged. Send a proposal packet to:

Corvallis Arts Center, Linn Benton Council for the Arts, July 1996 Exhibition, 700 SW Madison, Corvallis, OR 97333, 503-754-1551

Deadline August 1

Macromedia Multimedia Gallery.

Multimedia art works sought for Multimedia Gallery at Macromedia International User Conference, Oct. 30–Nov. 1, held at Moscone Center, San Francisco. Info: gallery@macromedia.com

Deadline August 7, Final finished proposal due

SCAN '95: Digital Passion (Philadelphia)

15th Annual Symposium on Small Computers in the Arts at the Franklin Institute Science Museum, Philadelphia. Proposals sought in one or more of the following categories:

Papers, Presentations, Panels, Performances, Corporate Presentations, Workshops. Do write for a prospectus and participate in this conference: It celebrates art quality and imagination instead of expensive hardware.

Small Computers in the Arts Network, 209 Upland Rd., Merion Station, PA 19066-1821; Misako Scott; 610-664-3417; scan@netaxs.com

Deadline September 31

Artists On-Line

Hassle-free representation of your art on an international scale. No commission fees. You retain 100% of all sales. Artists On-line delivers an innovative, quality, professional multimedia exhibition of your art to top galleries, collectors, interior designers, decorators, architects and corporations—all at the same time. All media, styles and art forms welcome. (Note: There are some scams on artists by web servers. Check out your server first! But this is the wave of the future).

Call toll free: 800-605-6333

Leap, Don't Run

Seeking info & images: "I am working on an interactive project to be on display at MOCA in Los Angeles this summer involving images (moving and still) of incredible physical feats from the past and present: leaping the chasm, stopping a cannon ball, leaping over tall buildings with a single bound...."

Irishart@aol.com

NEEDS/OFFERINGS

News of Ylem Members on the Web

Ylem members are encouraged to send news of their shows, achievements, etc. to be posted in our World Wide Web gallery. Please send a short description of the show or event (30 words), with dates and place. If it's a publication or article send a short description or excerpt (50 words)

and a phone number for information. Small pictures (2 inches is the largest dimension) will be used as space provides, and should be sent in digital form only. Show or event material must arrive 1 month prior to opening date. Please send them in digital form (no paper, please) to: beverly@idiom.com or in a floppy by snail to: Beverly Reiser, 6979 Exeter Dr., Oakland, CA 94611

1995 Arc Gallery

The selections are the results of an annual international competition for innovation and excellence in interactive media. The projects chosen represent digital life, digital intelligence, new approaches to CD-ROM interfaces, the next generation of virtual reality, interactive television, and movies. Highly recommended.

<http://www.arc.org/gallery95/index.html>

Art on the Net

Art on the Net is a virtual gallery and exhibition space on the Web for artists of all persuasions. Many artists maintain virtual studios there, which you can enter to peek at the works in progress. A virtual gallery is also featured, with hallways to wander, and exhibitions to see, hear, and experience. Art on the Net may be offering us Web space for our own virtual exhibition; stay tuned!

<http://www.art.net>

CD-ROM Publications

Engaged is an experimental quarterly arts magazine. Each issue is published in a different medium giving credence to marginalized forms for publishing and providing a space in which artists can show their work in the way it was intended to be experienced.

Rachel Steward, tel 0171-735-3123; rachel@engaged.demon.co.uk; Engaged, 334A Kennington Rd., London, SE11 4LD

Competition Notices

Arts Wire, a service of the New York Foundation for the Arts (NYFA) is pleased to announce a new resource for artists and others on the web. <http://www.tmn.com/Artswire/www/nyfa.html>

Digital Giraffe Virtual Studio

By Ylem artist Corinne Whittaker. Digital Giraffe offers not only her new paintings each month, but a book review and a column entitled "The Electronic Quill," an article each month about some aspect of art or culture. Ylem members may submit articles about two pages long, especially of a critical or philosophical nature. Submit articles to:

giraffe@redshift.com or fax to 408-624-2169; The Digital Giraffe URL: <http://redshift.com/~cwhit>

Calendar continued on page 9



Excerpts from: *Romancing the Anti-body*

by Lynn Pocock

Siggraph 95 Preview: The Art Gallery

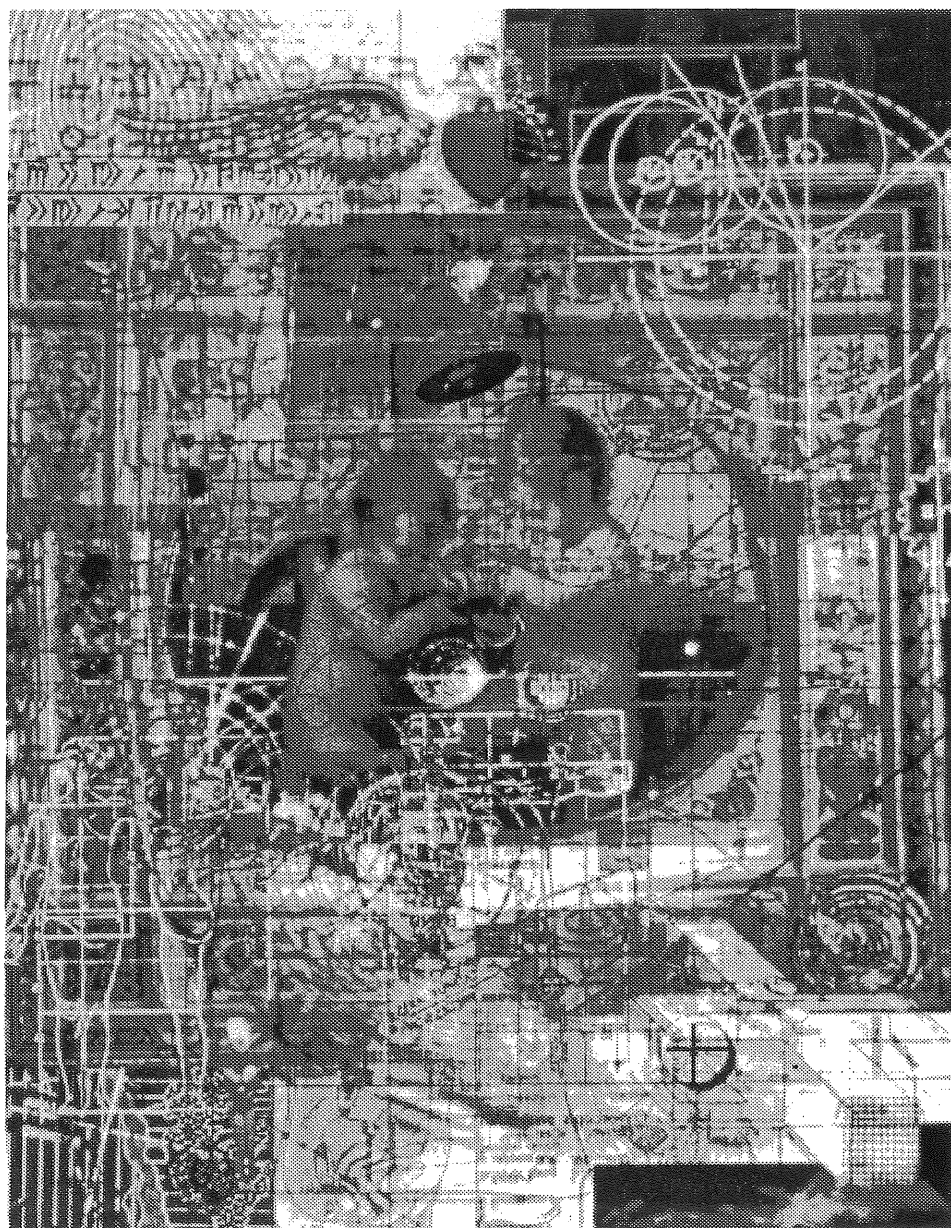
On August 6 - 11, 1995, the Los Angeles Convention Center will host the Siggraph 95 Art Gallery. Included in this year's show will be two-dimensional images, digital illustrations, artist book collections, installations, three-dimensional art works, interactive pieces and postal art. The art was selected from over

800 entries from around the world by a jury consisting of Karen Guzak, Barbara Mones-Hattal, Craig Hickman, Midori Kitagawa De Leon and Glenn Mitsui, chaired by Kenneth O'Connell. The result is a show which promises to be very exciting.

Kenneth O'Connell, who is currently a Professor of Art at the University of Oregon, approached the Gallery with a specific vision.

"My concept for the SIGGRAPH Art Gallery was to put together a show of international artists and to show the quality of the exploration being done by artists using computers. I wanted the work to be expressive of the artists' concepts and inquiry as well as show a range of content. The result is a show of beautiful images, rich in color and texture, ranging from realistic to abstract. The Art Gallery space will be a large area along one of the main pathways through the conference and should get a great deal of traffic. Because of the need for darkness and sound control two rooms will house some of the installation work while the largest part of the exhibit will be located together in the open space. Artists from 10 countries are represented and the work reflects personal, social, political and historic themes. The work varies from small quiet pieces to a loud, light-flashing interactive sculpture. There are also surprises to discover and I think the viewer will find the exhibit a very engaging experience. A large robot will be painting on canvas from input coming from France and California. One inch square sound cubes will let you talk to them and they will talk to you. You will see an abstract demonstration of the traffic flow on the Internet by the snake-like movements of a wiggling wire piece called *Live Wire*."

Included in the show are works by established artists such as Barbara Nessim, Roman Verostko and Yoichiro Kawaguchi as well as work by younger artists, such as David Bontempo and Geri Smith, who are new to the Siggraph Art Gallery. Among the most compelling imagery are the two dimensional prints by Peter Patchen, Jeff Brice and Diane Fenster. Their use of color, surface and texture creates a rich and captivating visual. Harvey Goldman presents a wonderfully haunting vision in his digital illustration *Blue Eyes in the Land of Forgotten Moisture* and Kent Manske intrigues the viewer with his sculptural constructions. Ranging from text-based to elaborate colorful drawings, the show includes a variety of beautiful artist books. And the power of the installations and the interactive work will best be understood when experienced in the



Quantum Cupids by Jeff Brice

gallery. Overall, the collective expression of the art work in the show summarizes the essence of the vision and creativity present in the digital arts today.

YLEM

Now is the time to begin planning your trip to the Siggraph 95 Art Gallery. For information about general conference registration contact:

Conference Management
Smith, Bucklin & Associates, Inc.
401 North Michigan Ave.,
Chicago, IL 60611

Tel: 312.321.6830
Fax: 312.321.6876
Email: siggraph95@siggraph.org

The Art Gallery Slide Set, the Visual Proceedings and the Multimedia CD ROM (all of which include images from the Art Gallery) can be purchased at the conference or obtained afterwards from ACM at 1.800.342.6626.

Lynn Pocock, Siggraph 95 Art Gallery,
Public Relations Coordinator

Email: lp77@columbia.edu



Mind and Body Environment
by Jason Dilmars

Calendar continued from page 7

Institute for Studies in the Arts

"As the new millennium approaches, we are challenged to reshape our thinking regarding those qualities we associate with the 'artistic mind.' The Institute for Studies in the Arts invites artists to bridge traditional methods of inquiry with [technological] forms of creating and to re-envision the role of the artist as a participant in a process for summoning the future of art."—Richard Loveless, Director.

Institute for Studies in the Arts, Box 872102,
Tempe, AZ 85287-2102; 602-965-9438;
fax 602-965-0961

International Symposium on Electronic Art Web site

The International Symposium on Electronic Art (ISEA) will be held in Montréal in mid-September. It lives up to its name! Art, music, performance, installation, multimedia by people from all over the world as well as workshops and lectures on theory and aesthetics. To learn more about it, access its site on the Web at:

<http://www.xs4all.nl/~isea>.

Kai's Power Tips and Tricks

For Adobe Photoshop. Brought to you by Kai Krause, one of the leaders of computer graphics, this site hosts a wonderful array of tips and tricks for the Photoshop user of any level. Examples of the lessons include CHOPS (CHannel OPerationS), filter effects complex drop shadows, shortcuts, and more. <http://the-tech.mit.edu/KPT/KPT.html>

SIGGRAPH Video Review

"Every year, you see the world's most exciting Computer Graphics at SIGGRAPH. This year, when you get home, instead of explaining it to your friends and colleagues, show them."

PO Box 11417, Chicago, IL 60611; 800-523-5503;
fax 312-789-7185; svrorders@siggraph.org

Special Interest Groups

The North Bay Multimedia Association (NBMA) offers Special Interest Groups which meet regularly to explore the specific aspects of their chosen topic. Come meet with people in your area of interest—who have shared your same struggle and can teach you the answers! Entrepreneur's SIG: 7–10 pm on the last Tuesday of each month. There is a \$10 charge for nonmembers of NBMA that can be applied

toward NBMA membership. Contact Mike Campos, 415-892-1573. Internet SIG: First Wednesday of each month. Call Joe Sinclair, 707-645-9310. Meetings for both are held in: Digital Village (Indian Valley College Library)

Temporary Rural Site Needed for Art

Ylem sculptor Vince Koloski writes: "I have begun to do large-scale, temporary, environmental neon installations. They are based on pictograms, petroglyphs and crop circles. I have done one in the Black Rock Desert, NV and have another one in the planning stages for a rooftop in Hayward. I would like to do more of them in diverse environments, hence my request. I would like to ask any Ylem members if they own or have access to rural land, and, if so, if they would be interested in talking to me about the possibility of allowing me to do a temporary (one or two day) installation on their land."

Vince Koloski Studios, 1094 Revere, #A17,
San Francisco, CA 94124; 415-822-8194;
fax 415-822-8563

Waxweb 2.0

Interactive 3D Cinema on the World Wide Web. Waxweb 2.0, the first interactive feature film on the World Wide Web, implements a dynamic version of VRML, the new graphics industry standard for virtual reality on the Internet, to deliver realtime 3D narrative "visualization" over the existing Internet backbone.

Regular access: <http://bug.village.virginia.edu>;
VRML (3D) access:

<http://bug.village.virginia.edu/vrml>; MOO

access: telnet to: bug.village.virginia.edu 7777

Ylem Reviewer Needed

Reviewer needed to explore artists' web sites and list best ones in Ylem Calendar. Perhaps the Ylem Newsletter can feature a separate column of such reviews each issue. Contact:

Trudy Reagan, 967 Moreno Ave., Palo Alto, CA
94303; 415-856-9593; trudymyrrh@aol.com

Some calendar items reprinted from Multimedia Reporter (from North Bay Assn.), Video Networks (from BAVC), Northwest Cyberarts, ISEA Newsletter, Leonardo Electronic Almanac, e-mail, Hotwire, a project of Arts Wire, artswire@tmn.com, and Fusion, newsletter of Art and Technology Society, art-tech-info@nocturne.sbay.org. We cannot verify all information sent to us. Readers, inform us of incorrect or false information, please.



Why is Good Electroacoustic Music So Good?

by Stephen Travis Pope

Why is Bad Electroacoustic music So Bad?

[Editor: This CMJ Editor's Note appeared in "Computer Music Journal" 18:3—Fall, 1994, and appears here by permission of the CMJ Editor.]

Many of those active in creating or consuming contemporary music have commented that truly "good" (in their subjective opinions) electroacoustic music can transcend the boundaries of traditional music and provide exciting new definitions of what musical expression and communication can be. At the same time, many of these same members of our community find that the less-highly-valued examples of electroacoustic music can indeed be significantly "worse" than even very "bad" traditional music.

What is it about computer music (and electroacoustic music in general), that leads to this? How is the process of composition and performance different technically and aesthetically in ways that effect the listener's perception of quality? In this note, I will offer several of my own observations on this subject, and present several reader responses.

I believe strongly that there are several musically-significant differences between electroacoustic music and instrumental music, and between contemporary (late 20th century), and historical music. I would like to outline a few of these below.

In the last 350 years of Western musical tradition (which serves as the basis of most electroacoustic music of the last 40 years), the roles of composer, performer, and audience were relatively static and well-understood. The few cases of people who were known primarily as performers, and secondarily as composers (e.g., Paganini), are generally viewed as exceptions that have led to extreme composition styles. For a good many composers/producers of electroacoustic music (this editor included) the possibility to play the role of "composer as performer" has a non-trivial - if not central - importance in their practice of the art. Is it really the case (as often cited in discussions of "bad" pieces), that performers frequently "save" instrumental compositions in their interpretations, and that no such option exists for the composer/performer of electroacoustic music?

The increasing use of computers in structured

real-time improvisation - some call it "interactive composition" - leads to another set of issues. Instrumental composers such as John Cage and Karlheinz Stockhausen have long written "composed improvisational" music, wherein the score gives the performers abstract instructions with much less detail than the traditional pitch/time/articulation information captured in common-practice Western music notation. The debate about where improvisation ends and composition begins is taking place in instrumental as well as electroacoustic music, though the participation of computer programs in the form of "active" instruments or automatic accompanists provides for new situations. The two basic questions here are whether it is even relevant to differentiate between improvisation and composition (I believe it is), and whether there are musically-important differences between "static," "procedural," and "intelligent" or "adaptive" computer-based instruments (I believe there are).

It is both a blessing and a curse that the new instruments of electroacoustic music (and modern recording studio technology), have allowed many composers who are not schooled in the classic/romantic Western music tradition to create "serious" musical works. This has, however, led to many compositions that bring up the "question of musical structure" - pieces where listeners ask the question of what "good" musical form is, and how "musical dramaturgy" is different from "theatrically-structured music". I would contend that there is indeed a fundamental difference in how listeners perceive structure, repetition, time, and thematic development in theatrical vs. musical forms. It is taken as obvious - based on the many differences between our visual and aural perception channels - that thematic development in music is quite different from character development in theater, and that the many aspects of structure that influence the audience's perception of tension and relaxation and their perception of time are quite different among the various "interactive" art forms (music, theater, cinema, installation art, etc.). To what extent is this a factor in "good" and "bad" electroacoustic music?

There has already been a lengthy and complex - though unresolved - discussion of the aesthetics of the use of 20th century electron-

ic media in live performance situations. In answer to the questions that are the title of this note, I would simply say that "good" (in my humble opinion) electroacoustic music succeeds in creating a listening space all its own, independent of the hall or room in which it is played, and conversely that "bad" electroacoustic music can be flat and "space-less" in the best hall with the best projection equipment and personnel. Just as one would (or should) never play a simple recording of acoustical instruments over loudspeakers in a concert setting (trying to deny the technology, as Roger Johnson would point out), one can fail by producing electroacoustic music that ignores the performance space. I am most intrigued by several pieces that I have heard in the past that introduced themselves as specifically intended for performance over home stereo systems, or via headphones, or solely for performance in large halls with expensive sound projection systems.

Michel Waisvisz and Joel Ryan, who worked together as instrument innovators and performers at the STEIM Institute in Amsterdam, have both frequently pointed out that there is an important role played by "effort" in most traditional musical instruments - a role that is often completely ignored in electroacoustic instruments, especially those that adopt the organ (rather than the piano) keyboard as their performance interface. How relevant is this in the listener's perception of the music? Can it be that our new instruments are "too easy" to play?

To get back to the two questions that serve as the title of this note, I believe it would be interesting to think of electroacoustic music as "post-modern" art - to think of music in the late 20th century in relationship to the other arts of our time. The thoughts of Dominique Richard on this subject lead one to contemplate whether we - as practitioners of that art - are acknowledging or denying the relationship. The recent interest in Jacques Derrida's deconstruction theory (which now seems to have reached its apex and to be slowly dying out), shows that art theory and aesthetics can change radically in a relatively short period of time. The intense application of deconstruction theory to several other art forms - especially those based on the word and the image such as



literature and cinema - has been all the rage in academia for the past decade, and has had no significant parallel (to my knowledge) in music theory. What is the reason for this?

Responses

Gareth Loy
San Anselmo, California, USA
dgl@Netcom.com

These are good questions, but trying to answer them through musical criticism will, I believe, be fruitless. When we ask why "So Good" or "So Bad," we imply that there is an experiencing subject who *feels* the goodness and badness. Arguing musical aesthetics without being grounded in *feelings* is rather like reciting the lyrics without singing the melody. Try it sometime, it's quite instructive.

I believe the real answers emerge from reflection on our own experiences. Here's a good place to begin digging out the answers. Where were you when you first heard a piece of electroacoustic music that was so good that you knew you had to learn how to do this yourself, no matter what the personal cost? How did that feel? Where were you when you first felt offended by what you believed was the artistic misuse of a technology you cared a great deal about? How did that feel?

Bill Matthews
wmatthew@abacus.bates.edu

One reason bad electroacoustic music can seem "worse" than bad acoustic music is that every tone produced by an acoustical instrument is physically complex and richly evolving in time. Each tone is also just a bit different from its neighbors. This stimulates the listener's cognition; there's always something fresh happening in and between sounds, no matter how impoverished the compositional ideas that brought them together. On the other hand, electroacoustic sounds tend towards similarity because of the way they're produced; along every parameter, there's an entropy that needs to be overcome by work. The irony is that professional instrumentalists spend their lives trying to smooth over timbral differences, while

professional electroacoustic composers struggle to overcome such regularity.

Joe Catalano
Berkeley, California, USA
JCatalano@Library.Berkeley.edu

I enjoyed your Editor's Note in the most recent issue of *Computer Music Journal* regarding good/bad electroacoustic music. Especially noteworthy was your reference to the ideas of Michel Waisvisz and Joel Ryan with respect to the important role of physical effort in musical instrument performance. I agree that this is very important. It is with the effort of the body that the soul comes through in music (at least in part). The electronic music that I enjoy the most has some quality of the person performing in it. I suppose "effort" has something to do with this. Effort can form the material as well in some situational/compositional strategies.

Stephen Smoliar
Kent Ridge, Singapore
smoliar@iss.nus.sg

I wanted to raise one point which is very close to my current concerns. You write that the roles of composer, performer, and audience were "relatively static and well-understood" in the 350-year tradition of Western music. I may have been reading this the wrong way, but I came away with the impression that composers were *only* composers under this *weltanschauung*. Needless to say, nothing could be further from the truth. Just about all the composers we accept as part of our tradition were practicing musicians in a manner which involved skills other than composition. You dismiss Paganini as an aberration because he was primarily a virtuoso performer, but what about all the composers who spent much of their time conducting orchestras or choirs? This goes back to Bach, but it is as valid for Berlioz, Brahms, and Mahler. (Ironically, there seems to be little record of Stravinsky conducting for Diaghilev; I wonder how much of it he did.)

The point I am making is that I doubt that you will find very many composers in our tradition for whom the *practice* of music consisted solely, or almost entirely, of com-

position. Composition in our traditional baggage was built on an infrastructure of other forms of practice. I think much of that infrastructure is lacking in electroacoustic music, and I suspect it lacks more in computer music than in other forms. There are, of course, notable exceptions. Merce Cunningham created a situation for John Cage and David Tudor in which performance was an important element of their work, perhaps even more important than composition. On the other hand, there are too many other environments in which it is just too easy to practice composition in a vacuum, and I think this isolation of composition from other forms of musical practice has a good deal to do with the aesthetic clash which you wish to make the theme of your editorial discussion.

Jeff Harrington
idealord@dorsai.dorsai.org

Essentially, dilettantes are in control of the medium. Artists without anything significant to say, technologists without any real reason to use the technology. I feel that once quality computer instruments are available to composers with imagination, this will change. Until then, we will continue to hear the same old electroacoustic piece - a few bell tones, scampering Tibetan horns at breakneck speed, drones of infinite length, etc. The electroacoustic music I have heard fails in many areas; there is little performance fire or flair; there is no room for musically sensitive timing or dynamic attenuation; and the colors are often lacking in subtlety, either being inappropriately dull or inappropriately bright.

I would submit that these problems are found in all of the arts today. Most people who have degrees in the arts have nothing to say and yet they produce the same amount of art as those who do. This produces a glut of art. The process of filtering out the wheat from the chaff becomes incredibly burdensome, if not impossible. So, committees judging for grants or awards settle on norms of mediocrity. Ultimately, electroacoustic music is bad because electroacoustic artists are. Hand me that hissy Varese record, please. Good art is a miracle we'll just have to patiently await.



Allan Gordon Bell
Calgary, Alberta Canada
agbell@acs.ucalgary.ca

Composers working in the instrumental realm must convince performers of the value of their music prior to it ever being heard in concert. Generally incompetent and illiterate music will not pass through this filter. Early in their training, composers make many of the necessary mistakes, witness their colleagues in university ensembles wrestle with their problematic notation and unclear music. If they have talent and determination, they will learn how to make their ideas clear to the performers who have to project their understanding to the audience. As the size of the forces the composer wishes to use increases, so must the composer's craft. Professional orchestras will not commission or perform works by composers in whom they do not have some fundamental belief. None of this guarantees that the work will be good, or that it will endure. It only serves as a force to ensure that the work will at least be competent. The feedback from this type of collaboration is the most important factor in the development of composers.

A computer or a tape machine does not reject musical illiteracy and aesthetic tedium. It only rejects computer or technical illiteracy. Feedback to the composer comes only after performance. No computer ever says, "I do not understand this passage." But many cellists will. The electroacoustic community is more egalitarian by far than the instrumental community. Perhaps the price that is paid for that honorable approach to music making is having to listen to more bad music before encountering the truly transcendent. In closing, I must correct your contention that the role of the composer, the performer, and the audience has been fixed for 350 years. It is only in the late 19th century that the composer stopped being an active performer in some capacity (including conductor). It is the post-World-War 2 era that saw the unfortunate creation of the composer-academic. But that creature is changing too.

Ludger Bruemmer
Essen, Germany

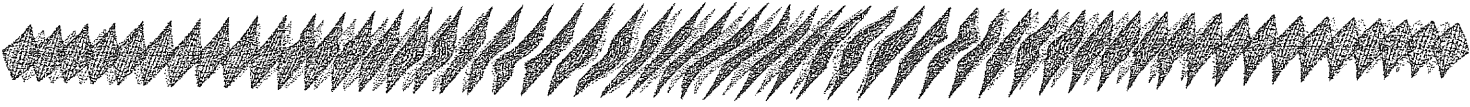
I agree with the editor's opinion "that there are musically-significant differences between electroacoustic music and instrumental music". The differences go far beyond the facts that electroacoustic music is just played by electroacoustic instruments while instrumental music is performed on physical instruments.

A hint for the difference between those two kinds of music can be derived from their current situation in the music scene. The support of electronic music in the media seems to be very weak, which surprises one in the context of the historical connection between radio stations and electroacoustic music. Electroacoustic music is composed for loudspeakers, which makes radio ideal as a medium to carry the already-electric signal through the air. This historically made electroacoustic music part of research sponsored by the communication companies like Bell Telephone Laboratories in America or the WDR in Cologne, Germany, but today the presence of electroacoustic music (popular music excluded) in the media seems to be rare in Germany while contemporary instrumental music continues to be widely available.

Radio stations like the WDR - with their long tradition and support of electronic music - might not be the only initiators of missing programs with electroacoustic music; some stations broadcast only their own productions and ignore the rest of the scene. Instead it shows to some extent the preferences of the listeners. In addition to this, electroacoustic music is not a usual part of concert programs, so could we consider that electroacoustic music is in a crisis? The background of the problem seems to have something to do with specific aspects of electroacoustic music. In the beginning of electroacoustic music, musique concrete and electronic music developed a style of their own with a separate esthetic, though there was no acceptance of this within the established con-

temporary instrumental music scene. This changed in the 1950s, 1960s and 1970s, as electroacoustic music became a part of the contemporary scene, and as composers discovered the compositionally expressive potential of electroacoustic technology. A number of aesthetic paradigms, such as composing with series, increased evaluation of timbre and noise, and the growing necessity of non-stereotypical complex parameter control let electroacoustic technology seem to be a tool with which to exceed the instrumental limits. It was natural for composers like Luciano Berio, Karlheinz Stockhausen, Gyorgi Ligeti and John Cage to compose for and with electroacoustic and acoustic instruments, where "composing for and with" does not mean an instrumentation of an instrumental score with electronic timbres (as is frequently found).

This situation changed in the post-modern age. The electronic music scene is separated from the instrumental music scene, composers are specialized to one of these fields. Instrumental music stopped using results of acoustic research to trigger the development of instruments. Instead, electronic music takes extensive advantage of the results found in acoustic research, and faces rapid development of their instruments - computers, software, and synthesis techniques. Because of the internationality of the hardware market and research, the electroacoustic scene is a small but very international community, while a strong national style and aesthetic has developed in instrumental music. The tendency to exceed limits of perception in whatever way seems not to be true anymore for instrumental music. Was the alliance of instrumental and electroacoustic music led by the intention to destroy the romantic aesthetic and create a totally new music and society? If we remember the flower power, love and peace movement, we can consider that this alliance does not exist anymore. Before the background of a conservative atmosphere (at least in Europe), it is easy to imagine which of both esthetics - the "fast developing, com-



plex and strange one" or the "back-to-the-roots sometimes neo-romantic or neo-classical one" is preferred by the vast majority of contemporary music listeners. Is a fast changing style of music with fewer pre-defined timbres using extremes in speed, pitch and musical language (algorithms, fractals) preferred by the audience in a time of economic problems, growing population, growing pollution and political conservatism? Or is a traditionally valued music with clearly defined timbre ideals (presets), performance traditions, and player limitations of more interest? Making electroacoustic music more interesting just by including instrumental players in a composition or by creating new instruments for a better imitation of acoustic instruments is not a solution for this problem. It is more likely helpful to define new instrument-player interactions instead of reproducing the traditional ones. New ways of interaction might create a new aesthetic. But is this wanted by the listener?

In the context of human interaction between composition and performance we can identify fundamental differences between electroacoustic music and instrumental music that cause the problem of why "less-highly-valued examples of electroacoustic music can indeed be significantly 'worse' than even very 'bad' traditional music." A bad composition is, when performed by a good performer, still an interesting experience because the performer modifies the information of the score by applying interpretational habits and the timbre of a good instrument. He/she would shape the results in electroacoustic music as well by his/her personal view applying an interpretation language to the formal structure of the piece. This helps the listener to perceive a complex musical structure or to enrich a poor structure, since a personal interpretation adds a common grammar to the piece and eases the process of understanding, or adds some good qualities to the otherwise bad piece. Since electroacoustic music does not go through this process of modification, a bad piece will be played


as poorly as it is, and even a good piece has more problems in the process of communication because no common interpretational grammar helps in the communicative process. Live interaction may supply a solution for this dilemma in electroacoustic music as mentioned above, but do they deliver something equivalent to the positive effect of the "stereotypical" interpretational habits or timbres if they are not reproducing instrumental performance behavior?

I think composers should place more emphasis on the development of expressive grammatical elements in their compositions, and that radio and television stations should broadcast more electroacoustic music and support the discussion of technical and aesthetic concepts in the program as a part of music perception. Composers of electroacoustic music should include more of the left-out visual sphere into their compositions - light, movement, space (not only in the acoustical sense), visual art, and others. Otherwise, the continuation of conservative aesthetic will lead electroacoustic music to become a "corner of the corner" art.

Conclusions

In the introduction to this discussion, I posed several questions and made several opinionated statements about contemporary (and electroacoustic) music. Each of the respondents chose to single out a different issue from among these. D. Gareth Loy asked us to focus on the results - the feelings - that are the central reason for making music in the first place. His comments remind me of the title of another of the notes in this series, "writing about music is like dancing about architecture." In his comments, Bill Matthews brought up the important issue of the sound generation, and the difference between virtuoso performance on a traditional instrument - being able to play a smooth, steady tone - and on an electronic one - being able to play an interesting, textured tone. Stephen Smoliar made an important clarification of the historical roles of composer/performers,

and his points are well-taken. I am in strong disagreement with both of Jeff Harrington's statements that "dilettantes are in control of the medium. [. . .] I would submit that these problems are found in all of the arts today." Neither of these opinions can be demonstrated on the basis of contemporary art practice. The final comments, from Ludger Bruemmer, echo many of my own sentiments.

Craig Harris commented in a personal communication that, "one theme that moves through has to do with the nature of the interaction with the medium - as composer, as performer, as spectator. This theme runs very deep into aesthetic issues." I believe that this is indeed the crux of the dilemma. The new media do effect some change in the roles of composer, performer, producer, and consumer; they allow anyone - whether trained as a musical creator or not - to participate more actively. They also allow composer/performers to relate to the audience in a much different manner than was possible before the advent of 20th century electronic technology, and the use to which a creative spirit puts this is determined by purely aesthetic considerations. Taking another quote as the closing comment, we can see in all of the above evidence of the now-old truism that "the medium is the message." Electroacoustic music delivers a different *message* than instrumental music. 

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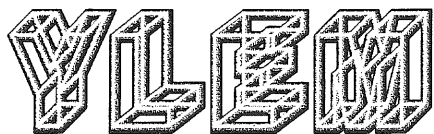
Ylem's Art on the Edge website URL internet address is:

<http://www.exploratorium.edu/Ylem/ylemhome.html>

Note: The first "Y" in the above address is capital! In August our URL will be:

<http://www.ylem.org>

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Use this address for membership info./renewals. See above for newsletter editor/submissions address.

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